

## CLAIMS

1. A DSL modem, comprising:

a connector comprising a first pair of conductors and a second pair of conductors;

circuitry for transmitting according to a DSL protocol;

circuitry for receiving according to a DSL protocol;

5 switching circuitry operable to selectively switch to a first position to couple the circuitry for transmitting and the circuitry for receiving to the first pair of conductors and to a second position to couple the circuitry for transmitting and the circuitry for receiving to the second pair of conductors; and

10 circuitry for controlling the switching circuitry to switch to one of the first position and the second position and for then detecting whether DSL service exists along the pair of conductors to which the circuitry for transmitting and the circuitry for receiving is then coupled.

2. The DSL modem of claim 1:

wherein in a first instance the circuitry for controlling the switching circuitry controls the switching circuitry to switch to the first position and detects whether DSL service exists along the first pair of conductors; and

5 wherein in response to detecting that DSL service does not exist along the first pair of conductors, then in a second instance the circuitry for controlling the switching circuitry controls the switching circuitry to switch to the second position.

3. The DSL modem of claim 2 wherein in the second instance the circuitry for detecting detects whether DSL service exists along the second pair of conductors.

4. The DSL modem of claim 3 and further comprising circuitry for notifying a user if DSL service does not exist along both the first pair of conductors and the second pair of conductors.

5. The DSL modem of claim 3 and further comprising:

circuitry for transmitting according to a voice modem protocol;

circuitry for receiving according to a voice modem protocol; and

circuitry for coupling both the circuitry for transmitting according to a voice

5 modem protocol and the circuitry for receiving according to a voice modem protocol to one of the first and second pairs of conductors in response to detecting that DSL service does not exist along both the first pair of conductors and the second pair of conductors.

6. The DSL modem of claim 5 wherein the circuitry for coupling both the circuitry for transmitting according to a voice modem protocol and the circuitry for receiving according to a voice modem protocol to one of the first and second pairs of conductors is responsive to an impedance measurement taken along at least one of the

5 first and second pairs of conductors.

7. The DSL modem of claim 5 wherein the circuitry for coupling both the circuitry for transmitting according to a voice modem protocol and the circuitry for receiving according to a voice modem protocol to one of the first and second pairs of conductors is responsive to detecting a POTS service along at least one of the first and

5 second pairs of conductors.

8. The DSL modem of claim 1 wherein the circuitry for controlling the switching circuitry controls the switching circuitry to toggle between the first position and the second position a plurality of times, and for each toggle operate the circuitry for detecting detects whether DSL service exists along the pair of conductors to which the

5 circuitry for transmitting and the circuitry for receiving is then coupled.

9. The DSL modem of claim 8 and further comprising circuitry for limiting a number of times that the switching circuitry is toggled.

10. The DSL modem of claim 1 wherein the switching circuitry comprises an electromechanical switch.

11. The DSL modem of claim 1 wherein the circuitry for detecting detects whether DSL service exists in response to a DSL transmission provided by the circuitry for transmitting and in response to a DSL received signal receiving by the circuitry for receiving.

12. The DSL modem of claim 11 wherein the DSL transmission comprises a R-TONES-REQ signal.

13. The DSL modem of claim 11 wherein the DSL received signal comprises a C-TONES signal.

14. The DSL modem of claim 11:  
wherein the DSL transmission comprises a R-TONES-REQ signal; and  
wherein the DSL received signal comprises a C-TONES signal.

15. The DSL modem of claim 1:  
and further comprising a DSL analog front end circuit;  
wherein the DSL analog front end circuit is coupled between the connector and the circuitry for transmitting; and

5 wherein the DSL analog front end circuit is coupled between the connector and the circuitry for receiving.

16. The DSL modem of claim 1 wherein the circuitry for transmitting and receiving comprises a digital signal processor.

17. The DSL modem of claim 1 wherein the circuitry for controlling the switching circuitry and the circuitry for transmitting and receiving comprises a digital signal processor.

18. The DSL modem of claim 1 wherein the connector comprises an RJ11 type connector.

19. The DSL modem of claim 18:

wherein the first pair of conductors comprises an inner pair of pins; and  
wherein the second pair of conductors comprises an outer pair of pins.

20. The DSL modem of claim 18:

wherein the first pair of conductors comprises an outer pair of pins; and  
wherein the second pair of conductors comprises an inner pair of pins.

21. The DSL modem of claim 1 wherein the switching circuitry comprises an electronic switch.

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